REMARKS

Entry of the foregoing amendment and reconsideration of the subject matter of the present application, as amended, pursuant to and consistent with 37 C.F.R. §1.111 and in light of the remarks which follow are respectfully requested.

As correctly noted in the Office Action Summary, claims 1-15 are currently pending and under consideration. Claims 1 and 3-8 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Dunlop et al. (U.S. Patent 6030514) in view of Marton et al. (U.S. Patent Application Publication No. 2003/0059640). Claims 2, and 10-15 stand rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Dunlop et al. (U.S. Patent 6030514) in view of Marton et al. (U.S. Patent Application Publication No. 2003/0059640) as applied to claims 1, 3-8 and further in view of Ding et al. (U.S. Patent Application Publication No. 2003/0089601). Claim 9 is also rejected as allegedly being unpatentable over Dunlop et al. (U.S. Patent 6030514) in view of Marton et al. (U.S. Patent Application Publication No. 2003/0059640) and Ding et al. (U.S. Patent Application Publication No. 2003/0089601) as applied to claims 1-8 and 10-15 and further in view of Arai et al. (U.S. Patent No. 6187457). These rejections are respectfully traversed.

By this Amendment, claims 13-15 have been cancelled and claims 1-5, 8 and 10-12 have been amended with claims 1 and 10 now being in independent form. The present claims, as amended, generally relate to a method of dry treating a target surface prior to packaging or using the target for subsequent use in a sputtering deposition process. The method comprises the steps of: a) preparing a target assembly and securing the target assembly in a vacuum chamber of a magnetron sputtering apparatus; b) energizing the magnetic component of the magnetron sputtering apparatus with a power between about 0.2 kW and about 4 kW for a period of time between about 4 and about 30 minutes to produce a dry treated exposed surface of the target. Such treatment effectively reduces inherently undesirable impurities on the exposed surface of the target. The claimed method further includes the steps of: c) removing the treated target assembly from the magnetron sputtering apparatus; and d) packaging the target

assembly for subsequent use in the sputtering deposition process. Independent claim 12 is directed to a method of dry treating a target surface prior to initial use of the target in a sputtering deposition process and thus further includes subsequent steps of: e) assembling the target assembly into a sputtering apparatus to coat a substrate; and f) sputtering the target assembly to burn-in the target assembly wherein the burn-in time is reduced by at least 10% compared to an untreated target.

It is well established that any rejection that is based on obviousness under 35 USC 103(a) requires application of the key factual inquires set forth in *Graham v. John Deere Co.*, 148 USPQ 459 (1966). Two very important factual inquiries, set forth in *Graham v. John Deere Co.* include: (1) determining scope and content of the prior art; and (2) ascertaining the differences between the prior art and the claims at issue. In the present matter, the Office Actions has failed to properly satisfy these criteria and thus, have failed to establish a prima facie case of obviousness. Specifically, the Office Action has apparently misunderstood and mischaracterized the teachings of the Marton et al. reference and has failed to appreciate the differences between the purported combination of Dunlop et al. and Marton et al. references and the present claims.

The primary reference relied on in the Office Action, Dunlop et al., relates to a method for reducing sputtering burn-in time similar to that claimed in the presently amended claims. As correctly pointed out in the Office Action, Dunlop et al. does not disclose or suggest each and every feature of the invention. In particular, Dunlop does not teach or suggest the specifics of the treatment method, and in a broad sense does not provide any enabling disclosure of a sputtering treatment, as claimed in independent claims 1 and 10. The Office Action cites Marton et al. for disclosing the missing specifics of the present claims.

However, the disclosure of the Marton et al. reference is lacking in several material respects. For example, the Marton et al. reference does not disclose all of the claimed limitations including: a "***…dry treating a target surface prior to packaging the target for use in a sputtering deposition process …***"; "***…energizing the magnetic component of the magnetron sputtering apparatus***

with a power between about 0.2 kW and about 4 kW for a period of time between about 4 and about 30 minutes ..."; and (per claim 1) "***...to reduce inherently undesirable impurities...***" or per claim 10, "***...burn-in time is reduced...***" ***(Emphasis Added)***.

The Office Action characterizes Marton et al. as teaching conditioning a target by utilizing a magnetron to produce a plasma for about 10 to 40 minutes at a magnetron power of between about 0.1 kW and 1 kW. (See page 4 of the Office Action dated August 15, 2007). A closer reading of the Marton et al. reference clearly shows that the initial conditioning process (26) is actually a burn-in process. As taught in paragraph 0050 of the Marton et al. reference, the initial conditioning (or burn-in) is performed for several hours with subsequent conditioning processes done for a shorter time (e.g. 30 minutes). More importantly, the conditioning (26) of the Marton et al. reference is not for a duration of between about 4 and 30 minutes prior to the packaging of the target (See claim 1) and is not for a duration of between about 4 and 30 minutes prior to the initial use of the target (See claim 10). Furthermore, the Office Action suggests a motivation for utilizing the teachings of Marton et al. is that it allows for the conditioning or cleaning of the target. Such a motivation is contrary to the actual teachings of Marton et al. A closer reading of the Marton et al reference suggests the length of time for the target conditioning is to allow the plasma process reach a steady state (See Paragraph 0050) and/or to achieve stable deposition conditions (see Paragraph 0074). Neither of these purposes is relevant to the current process as outlined in pending claims 1-12.

For the reasons identified above, the Office Action has not established a prima facie case of obviousness for any of the pending claims as the scope and content of the prior art, namely the Marton et al. reference, is incorrect; and the differences between the prior art and the claims at issue have not been fully appreciated. In addition, there is no motivation to combine the Marton et al reference with the Dunlop et al. reference as the purpose of the target conditioning (26) in the Marton et al. reference is quite different from the actual claimed limitations. Thus, Applicants maintain, the conditioning process in the Marton et

al. reference actually teaches away from the presently claimed inventions and the combination of Marton et al. with Dunlop et al. is a pure fictitious combination constructed purely from hindsight.

Please note that the arguments presented above focus mainly on independent claims 1 and 10. However, it is clear that such differences are equally applicable to the obviousness rejection of all dependent claims, including claims 2, and 9-12. Neither of the Ding et al. or the Arai et al. references cures the defects in the obviousness rejections outlined above. From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited.

A petition for a three-month extension of time is submitted herewith. The Commissioner of the U.S. Patent and Trademark Office is authorized to charge the appropriate fee for the three month extension to Deposit Account No. 16-2440. If any fee deficiencies or fee credits are associated with this Amendment, the Commissioner of the U.S. Patent and Trademark Office is authorized to charge such deficiency or credit any overpayment of fees to Deposit Account No. 16-2440.

Finally, if the Examiner has any questions or concerns regarding this Response, he is invited to contact the undersigned at his earliest convenience.

Respectfully submitted,

/Robert J. Hampsch/
Robert J. Hampsch Reg. No. 36,155
Attorney for Applicants

Praxair, Inc.
39 Old Ridgebury Road
Danbury, CT 06810
Phone: (203) 837-2178
Fax: (203) 837-2515
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